

**REMARKS**

Claims 16, 17, 19-26, 31, and 34 are pending in the present application. Claims 1-15, 18, 27-30, and 32-33 have been canceled. Claims 16 and 25 independent.

**Claim Objection**

Claim 28 is objected to because of a minor typographical error. Namely, claim 28 should depend from claim 27 as noted in the Office Action. An amendment has been submitted above canceling claim 28 thereby rendering this issue moot. Therefore, Applicants respectfully request reconsideration and withdrawal of the claim objection.

**35 USC 112 First Paragraph Rejection and Specification Objection**

Claims 27-30 and 32-33 are rejected under 35 USC 112 first paragraph as failing to comply with the written description requirement. In a related issue, the specification is objected to as not providing proper antecedent basis for the subject matter of claims 32-33. This rejection and the related objection are respectfully traversed.

Although Applicants assert that the specification does indeed provide a full written description of the claimed invention, to reduce issues before the Examiner in this particular application, Applicants have canceled claims 27-30 and 32-33. Such cancellation is not to be taken as a concession or agreement with the §112 rejection of specification objection made in the last Office Action. Such issues are preserved for a future time such as a divisional or continuation application, for example.

Due to the cancellation of the affected claims, these issues have been effectively rendered moot. Therefore, Applicants respectfully request reconsideration and withdrawal of the §112, first paragraph rejection as well as the specification objection.

Obvious Double Patenting Rejection

Claims 16-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of parent Patent 6,343,075. Applicants generally agree with the Examiner that the claims in the instant application are broader versions than those already patented in parent Patent 6,343,075. To overcome the double patenting rejection, Applicants concurrently file herewith a Terminal Disclaimer thereby clearly rendering this rejection moot. Therefore, Applicants respectfully request reconsideration and withdrawal of the obviousness-type double patenting rejection.

35 USC §102(b) Zola Rejection

Claims 16-19, 23 and 25 are rejected under 35 USC 102(b) as being anticipated by Zola (USP 4,400,627). This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

Zola teaches a telephone switching network including a method of interconnecting the stages of a space division switch network. The space division switch includes three stages such as input stage switch 101, center stage switch 201, and output stage switch 301.

Although Zola appears to disclose a three stage switch, Zola fails to disclose or suggest the full combination of features recited in amended claim 16 including a second stage switch having a plurality of second switch circuits equaling  $N$ , where  $N$  is an integer other than a power of 2 in combination with a looping algorithm that is used as a control algorithm for the switch. The looping algorithm feature of claim 18 has been added to independent claim 16 to provide a further distinguishing basis over Zola. Although Zola is applied to teach the looping algorithm feature, it is quite clear that this feature is completely absent from Zola. Indeed, the Office Action appears to be referring to the wrong language (see Office Action page 9, first full paragraph) when rejecting claim 18 based on Zola. Indeed, a careful reading of Zola will reveal that no such looping algorithm control or configuration of the switch is disclosed or suggested therein.

With respect to claim 25, there is recited a different combination of features which is also completely absent from and not suggested by Zola. Most particularly, Zola fails to disclose or suggest that the physical center stage switch circuits may be configured, represented, or otherwise controlled as a plurality of logical center stage switch circuits. Instead, Zola only shows the physical arrangement of the center stage switches 201, 202, etc. There is no logical representation, configuration or control of the center stage switches. The Office Action points to the Figure 4, as well as column 5, lines 43-45 and column 5, lines 60 – column 6, line 22 as allegedly describing this logical center stage switch structure but it is clear that these sections of Zola disclose no such thing. Instead, these sections merely show the conventional physical structure of the center stage switch architecture and fails to disclose or suggest any such logical

arrangement control or configuration such that Zola fails to disclose or suggest a plurality of logical center stage switch circuits as claimed.

This argument concerning the logical center stage switches is particularly forceful because claim 25 further specifies that these logical center stage switch circuits have a plurality that numbers or equals  $N \cdot f$  where  $f$  is a number of logical center stage switch circuits per physical stage circuit. In other words, each of the center stage switch circuits may be broken down, controlled, or configured such that the physical center stage switch may be configured, controlled or treated as a plurality of logical center stage switch circuits having a number  $f$  of logical center stage switch circuits per physical center stage switch circuit. There is simply no disclosure or suggestion of any such logical arrangement in Zola and the portions cited by the Office Action merely refers to standard interconnections of physical center stage switches to the input stage switches and output stage switches.

Still further, Zola fails to disclose or suggest further features of claim 25, namely that there is a subset of the plurality of logical center stage switch circuits equaling  $n$  where  $n$  is less than  $N \cdot f$  and  $n$  is a power of 2. This subset is also completely absent from Zola and the evidence offered in the Office Action merely points to how to interconnect the physical center stage switches 201-203 to other components such as the input stage switches and output stage switches.

For all the above reasons, taken alone or in combination, Applicants respectfully request reconsideration and withdrawal of the 35 USC §102(b) Zola rejection.

35 USC §103(a) Zola-Andresen Rejection

Claim 18 is rejected under 35 USC 103(a) as being unpatentable over Zola in view of Andresen ("The Looping Algorithm Extended to Base 2<sup>t</sup> Rearrangeable Switching Networks, IEEE, pages 1057-1063, 1977). This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

This rejection is specifically addressed because the features of claim 18 have been added to claim 16, namely the looping algorithm feature which is utilized as a control algorithm for the switch. As argued above, Zola completely fails to disclose or suggest any such looping algorithm feature. Clearly, Andresen is being relied upon in the Office Action to teach this feature.

While Andresen does indeed disclose a looping algorithm, it is clearly limited to conventional Clos rearrangeable switching networks in which the number of center stage switches is limited to a power of 2. This is clear even from the abstract of Andresen.

One of the inventive features and advantages offered by the invention is the ability to use a looping algorithm to control or otherwise reconfigure a rearrangeable, non-blocking switch having a number of second stage or center stage switches totaling  $n$  where  $n$  is an integer other than a power of 2. Conventional Clos networks such as those discussed in Andresen and in Zola limit the number of center stage switches to a number that is a power of 2. In sharp contrast, claim 16 requires that the number of second stage switch circuits be a number  $n$  which is an integer other than a power of 2. This number of second switch circuits cannot be controlled or reconfigured by a looping algorithm in the conventional sense. This problem has been solved by

the present invention and the claims clearly recite these distinguishing features which are completely absent from the applied art, even when taken in combination.

For all the above reasons, taken alone or in combination, Applicants respectfully request reconsideration and withdrawal of the 35 USC §103 Zola-Andresen rejection.

35 USC §103 Zola-Gao Rejection

Claim 31 is rejected under 35 USC 103(a) as being unpatentable over Zola in view of Gao (USP 5,945,922). This rejection, insofar as it pertains to the presently pending claims is respectfully traversed. The above arguments related to Zola are hereby incorporated by reference. Applicants respectfully submit that these arguments are sufficient to remove Zola as a valid reference against independent claim 25 from which 31 depends. Furthermore, Gao fails to remedy any of the noted deficiencies in base claim 25. Indeed, Gao is merely applied to teach the features of dependent claim 31 which are not relied upon for patentability herein. Although Applicants do not agree with the assertions made with respect to Gao, Applicants wish to focus the patentability upon the features of independent claim 25 (as well as independent claim 16). Because the combination of Zola and Gao fails to disclose or suggest the features of base claim 25, claim 31 is considered patentable at least due to its dependency upon claim 25.

For all the above reasons, taken alone or in combination, Applicants respectfully request reconsideration and withdrawal of the 35 USC §103 Zola-Gao rejection.

Conclusion

Should the Examiner believe that any outstanding matters remain in the present application, the Examiner is respectfully requested to contact Michael R. Cammarata (Reg. No. 39,491) at the telephone number of the undersigned to discuss the present application in an effort to expedite prosecution.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By 

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